

second cathode layer (144) having a high reflectivity and a high work function.

Applicants submit that the pending claims are allowable over the teachings of the cited references, either alone, or in various combinations, for at least the reasons described below.

1. Each of Coldren et al. (US 5,877,038) And Nadja (U.S. 6,137,819) and Leising et al. (U.S. 6,117,529) Does Not Describe/Suggest A Device Containing A Multi-Layer Cathode

Applicants submit that none of Coldren et al., Leising et al. and Nadja teach nor suggest a device comprising at least one first cathode layer (142) of a low work function material, and at least one second cathode layer (144) having a high reflectivity and a high work function.

At page 3 of the Office Action, the examiner states that "Coldren et al. disclose the second layer 16 has a high reflectivity (col. 7, lines 25-27)." The cited portion describes a single layer 16 having a high reflectivity, but nowhere in the reference does Coldren et al. describe a multi-layer cathodes with at least one low work function first cathode layer and at least one high work function second cathode layer having high reflectivity.

Similarly, Najda also does not describe a multi-layer cathode. Moreover, the portion cited in Leising et al. at page 3 of the Office Action merely describes a cathode of a low work function material, and fails to describe the second cathode layer recited in Claim 1.

2. The Combination of Coldren et al. and Leising et al. Is Inappropriate Because The References Are From Non-Analogous Art

Given that Coldren et al. describes VCSEL and Leising describes organic electroluminescence devices and displays, it would be inappropriate to combine these two references from non-analogous art. One of ordinary skill in the art knows that the light source for a laser is very different from the light

source of an electroluminescent device: whereas a laser light of Coldren et al. is generated at the junction of the p-region and n-region, light from an electroluminescent device of Leising et al. is generated by the electroluminescent material through the conjugated polymer itself, and not at p-n junctions. In addition, neither Coldren et al. nor Leising et al. contain a suggestion that VCSEL can be combined with an electroluminescent device.

Therefore, one of ordinary skill in the art can find no motivation to combine these two references. In addition, even with inappropriate combination of these two references, the combined teaching would not teach or suggest a light-emitting device containing a cathode having both low work function layer(s) and high reflectivity and high work function layer(s).

In view of the above, Claim 1 is allowable over this combination. For the same reasons, Claims 2-24, which depend upon Claim 1, are also allowable over this combination.

3. The Combination of Coldren et al. and Leising et al. In View Of Nadja Is Inappropriate Because The References Are From Non-Analogous Art

As with the combination discussed under heading B-2 above, one of ordinary skill in the art can find no motivation to combine Coldren et al. and Leising et al. with Nadja. Coldren et al. describes a laser and Nadja describes a laser and RCLED art. Nadja describes the RCLED as system having p-n junctions (col. 1 lines 17-29). One of ordinary skill in the art understands that the laser and RCLED arts are non-analogous arts with the art of electroluminescent displays described in Leising et al. Nadja also does not contain any teaching or suggestion can be combined with the teachings of the electroluminescent displays art of Leising et al.

Moreover, even with inappropriate combination of these three references, the combined teaching would not teach or

suggest a light-emitting device containing a cathode having both low work function layer(s) and high reflectivity and high work function layer(s).

Therefore, Claim 1 is allowable over this combination. For the same reasons, Claims 6-11, 14-17, which depend upon Claim 1, are also allowable over this combination.

C. Conclusion

In view of the Paragraphs A and B above, Applicants submit that Claims 1-24 are not obvious over the Coldren et al. and Leising et al. Additionally Claims 6-11, 14-17, which depend upon Claim 1, are also allowable over the combination of Coldren et al. and Leising et al. in view of Nadja.

In view of the foregoing, allowance of the above-referenced application is respectfully requested.

Respectfully submitted,



CHEN WANG
ATTORNEY FOR APPLICANTS
REGISTRATION NO. 38,650
TELEPHONE: (302) 892-7750
FACSIMILE: (302) 892-7949

Dated: Feb. 25, 2002